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09/734,635	12/12/2000	Hidetaka Oka	A-22141/US/A/CGJ 118	4752

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PATENT DEPARTMENT
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EXAMINER

THORNTON, YVETTE C

ART UNIT	PAPER NUMBER
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1752

DATE MAILED: 11/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/734,635

Applicant(s)

OKA ET AL.

Examiner

Yvette C. Thornton

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 September 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 12-18 is/are rejected.
- 7) ☒ Claim(s) 11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 21.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

This is written in reference to application number 09/734635 filed on December 12, 2000.

Response to Amendment

1. Claims 1-18 are currently pending. The instant claims have been amended to exclude the choice of the aryl group being unsubstituted.
2. The rejection of the claims under 35 USC 112, 1st paragraph is withdrawn. Support for the C₃₋₉ heteroaryl group being substituted by the listed groups of instant claim 1 is found on page 9 of the specification, lines 19-22.

Information Disclosure Statement

3. The Information Disclosure Statement filed on August 18, 2003 has been entered and fully considered.

Double Patenting

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1, 6-7 and 17 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 6, 11-12 and 17 of

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copending Application No. 09/734625 (US 2001/0012596). Although the conflicting claims are not identical, they are not patentably distinct from each other because one of ordinary skill in the art would have been motivated to develop a photopolymerizable composition comprising (a) at least one ethylenically unsaturated photopolymerizable compound, (b) as a photoinitiator at least one compound of formula (I) or (II) and a binder polymer (cl. 11) as taught by the instant claims.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Response to Arguments

6. Applicants have failed to respond to the double patenting rejection of instant claims 1, 6-7 and 17 over copending Application No. 09/734625.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-10 and 12-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Laridon et al. (US 4282309A). Laridon teaches a photosensitive composition suited for the production of polymer resist images comprising a mixture of (1) a photopolymerizable ethylenically unsaturated compound, (2) at least one oxime ester photopolymerization initiator, and (3) at least one sensitizer (abstract). Specific oxime esters are represented by

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the formulae:
$$\text{R}^5-\overset{\text{R}^4}{\underset{|}{\text{C}}}=\text{N}-\text{O}-\text{R}^6$$
 wherein R_4 represents a C_{1-2} alkyl group, an aryl group, an alkaryl group, an aralkyl group, a hydroxy-substituted aralkyl group or a substituted or unsubstituted acyl group. R_5 is a hydrogen atom, a C_{1-2} alkyl group, an aryl group, or a substituted or unsubstituted acyl group. R_6 represents a substituted or unsubstituted acyl group (c. 2, l. 44-68). It is the examiner's position that when R_5 is hydrogen and R_4 is alkaryl, the limitations of claimed formula (I) are met wherein Ar1 is a C_{6-20} aryl substituted with a C_{1-20} alkyl group. The photosensitive recording composition of the taught invention can be coated in the form of a layer on a support (c. 6, l. 3-5). It may comprise one or more ethylenically unsaturated polymerizable compounds such as styrene, acrylamide, acrylonitrile and methyl methacrylate (c. 6, l. 5-11). The photosensitive layer preferably comprises plurally unsaturated photopolymerizable compounds such as divinylbenzene, diglycol diacrylates, and pentaerythritol triacrylate (c. 6, l. 29-40). The said photopolymerizable compound can be used together with a polymeric binding agent. Suitable binding agents are polystyrene, polyvinyl acetate, copolymers of acrylic acid, methacrylic acid and unsaturated dicarboxylic acids such as maleic acid. Especially suitable are the alkali soluble copolymers of methyl methacrylate and methacrylic acid (c. 7, l. 1-46),

Laridon teaches many uses of the taught invention. If the support is made of a transparent resin or glass, photosensitive layers containing dyes or pigments can be used to make transparencies. If the support is made of an opaque paper, and the photosensitive layer contains dyes or pigments, opaque color proofs can be made by washing off. If the support is made of metal a photoresist can be prepared with a photosensitive coating according to the

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taught invention wherein the resist can be used as an etch resist (c. 8, l. 28-38). For the production of planographic printing plates, intaglio and relief images, and printed circuits, the substrates maybe stone, paper, and metal based materials suitable for etching (c. 8, l. 39-58). In the production of miniaturized integrated electrical components, the photosensitive composition serves as a shielding pattern on a semiconductor substrate wherein the desired electronic properties are added by techniques such as ion implantation, electrode-less deposition, ion milling or etching (c. 8, l. 59-66). One of ordinary skill in the art would have been motivated by these teachings to coat the taught composition in combination with pigment or dye onto a transparent substrate comprising an electrode in order to obtain a desired electronic component (i.e., a color filter).

The photosensitive recording material is prepared by coating the taught photosensitive layer on a selected substrate by known coating techniques. The coating composition may comprise besides the taught ingredients, matting agents, antistatic agents, coating aid. Examples include silica particles, which meet the limitation of inorganic filler as set forth in instant claim 10. Before their application in the form of a coating these ingredients are dissolved in a low boiling solvent, which is removed by evaporation after coating (c. 9, l. 45-60). The photosensitive coating is exposed to actinic radiation whereby the exposed areas are polymerized and the unexposed portions are removed by washing with a solvent (c. 10, l. 43-68). Any source of actinic radiation can be used in the range of 200-400 nm (c.11, l. 3-15). See also claims 1, 3 and 5-9.

One of ordinary skill in the art would have been motivated by the teachings of Laridon to make a photosensitive composition comprising (1) a photopolymerizable

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ethylenically unsaturated compound; (2) at least one oxime ester photopolymerization

initiator represented by the formulae:
$$\begin{array}{c} \text{R}^4 \\ | \\ \text{R}^5 - \text{C} = \text{N} - \text{O} - \text{R}^6 \end{array}$$
 wherein R_5 is hydrogen and R_4 is alkaryl; and (3) at least one sensitizer (abstract) in order to make a photosensitive coating which can be used in a large variety of applications.

Response to Arguments

9. Applicant's arguments filed in regard to the instant claims have been fully considered but they are not persuasive. Applicants argue that the prior art reference of Laridon (US '309.) fails to exemplify the claimed aldoxime compound and only used ketoxime compounds. Applicants acknowledge that Laridon generically encompasses aldoxime compounds but does not actually exemplify such compounds. Laridon clearly teaches that R_5 is a hydrogen atom, a $\text{C}_{1,2}$ alkyl group, an aryl group, or a substituted or unsubstituted acyl group. R_4 is selected from a $\text{C}_{1,2}$ alkyl group, an aryl group, an alkaryl group, an aralkyl group, a hydroxy-substituted aralkyl group or a substituted or unsubstituted acyl group. Although a compound having R_5 as hydrogen and R_4 as alkaryl group is not exemplified, one of ordinary skill in the art can readily envision the use of hydrogen and alkaryl as a suitable substituents. Thereby rendering the claimed invention obvious over the cited prior art.

10. Applicants further assert that they have surprisingly discovered that the claimed aldoxime compounds has enhanced results. The declaration submitted on December 12, 2002 has been re-considered but remains unconvincing. The said declaration uses preferred substituents for Ar_1 , which may give enhanced results. The independent claim of the present invention encompasses a vast number of choices. However, the applicant has chosen only to

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compare two compounds having his exemplified substituents. Additionally, the declaration fails to compare the closest prior art. The declaration uses the composition of example 31 of the present specification and the examiner is unable to make a direct comparison between the taught prior art and the claimed invention. A better comparison would have been to make the composition of example 1 of Laridon and vary the ketoxime component. While comparative results of 300% versus 100% increase in speed appears to be significant, the declarations does not prove that the composition of the prior art does not produce similar results.

11. The examiner maintains the prior art reference of Laridon is applicable as stated above.

Allowable Subject Matter

12. Claim 11 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

13. The following is a statement of reasons for the indication of allowable subject matter: review of the prior art failed to teach and/or disclose a photosensitive composition as set forth in the present claims further comprising an epoxy compound which contains at least two epoxy group in the molecule.

Conclusion

14. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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15. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.
16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yvette C. Thornton whose telephone number is 703-305-0589. The examiner can normally be reached on Monday-Thursday 8-6:30.
17. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark F. Huff can be reached on 703-308-2464. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.
18. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1495.



MARK F. HUFF
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700



November 21, 2003